

**Remarks:**

This amendment and these remarks are responsive to the non-final Office action dated September 27, 2005, and are being submitted under 37 C.F.R. § 1.111. Claims 1-51 are pending in the application, with claims 37-47 withdrawn from consideration. In the Office action, the Examiner (1) objected to the title, (2) indicated that claim 32 would be allowable if written in independent form, and (3) rejected claims 1-31, 33-36, and 48-51 under 35 U.S.C. § 102 or § 103 as being anticipated or obvious. Applicant traverses the rejections, contending that the rejected claims are neither anticipated nor obvious.

Nevertheless, to expedite the issuance of a patent, and to more particularly point out and distinctly claim aspects of the invention that applicant would like to patent now, applicant has canceled claims 37-47, without prejudice; amended claims 1, 30, 36, 48, and 51; and added new claims 52-55. Furthermore, applicant has presented remarks showing that claims 1-31, 33-36, and 48-55 are neither taught nor suggested by the cited references. Accordingly, applicant respectfully requests reconsideration of the rejected claims, and prompt issuance of a Notice of Allowability covering all of the pending claims.

**I. Amendment of the Title**

In the Office action, the Examiner required an amendment to the application title to make the title more indicative of the invention to which the claims are directed. The Examiner also proposed a new title: "System and Method for Assessing Fluid Distribution in a Urine Detection Network. The present communication amends the title according to the Examiner's proposal.

Page 11 - AMENDMENT  
Serial No. 10/666,351  
KH Docket No. SYM 306

## **II. Claim Rejections under 35 U.S.C. §§ 102 and 103**

The Examiner rejected each of claims 1-31, 33-36, and 48-51 as being anticipated or obvious. Claims 1-3, 6, 8-10, 12, 14-29, 33-36, and 48-51 were rejected as being anticipated under 35 U.S.C. § 102(e) by U.S. Patent No. 6,774,800 to Friedman et al. ("Friedman"). Claims 4, 5, 7, 11, 13, 30, and 31 were rejected under 35 U.S.C. § 103(a) as being obvious over Friedman alone or in combination with another reference. In particular, claims 4, 5, 11, and 13 were rejected over Friedman; claim 7 was rejected over Friedman combined with U.S. Patent No. 5,570,082 to Mahgerefteh et al.; and claims 30 and 31 were rejected over Friedman combined with U.S. Patent No. 4,704,108 to Okada et al. ("Okada"). Applicant traverses each of these rejections.

Nevertheless, to expedite the issuance of a patent, and to more particularly point out and distinctly claim aspects of the invention that applicant would like to patent now, applicant has amended claims 1, 30, 36, 48, and 51. Each of claims 1-31, 33-36, and 48-51 is patentable for the reasons set forth below.

### **A. Claims 1-31 and 33-35**

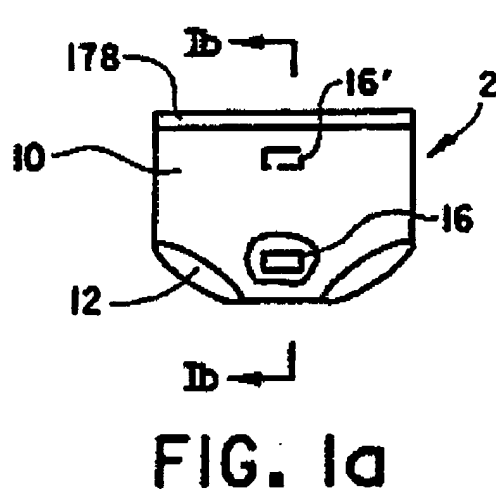
Claim 1 is an independent claim directed to a urine detection network:

1. (Currently Amended) A urine detection network, comprising:  
a first detector configured to service a first region of a urine collection article; ~~[[and]]~~  
at least a second detector ~~operatively coupled to the first detector and~~  
configured to service a second region of the urine collection article; and  
a conductive element that electrically couples the first detector to the second detector;

wherein the first detector and the second detector are collectively configured to indicate a fluid distribution of the urine collection article.

None of the cited references, alone or in combination, teaches or suggests every element of amended claim 1. For example, none of the references teaches or suggests a conductive element that electrically couples a first detector to a second detector, and particularly not first and second detectors collectively configured to indicate a fluid distribution of the urine collection article.

Claim 1 was rejected over Friedman. Friedman relates to an apparatus for remotely monitoring fluid discharge from a patient. As shown in Figure 1a, the apparatus is disclosed to be a diaper 2 with RF tags 16, 16' positioned between an outer cover 10 and an inner lining 12 of the diaper.



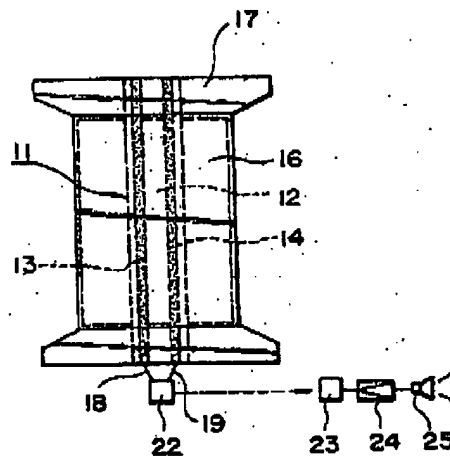
The RF tags of Friedman are separate detection devices and are not electrically coupled to one another. Accordingly, Friedman does not disclose "a conductive element that electrically couples the first detector to the second detector," as recited by amended claim 1.

In the Office action, the Examiner rejected original claim 30, which involves electrically coupled first and second detectors, as being obvious over Friedman

combined with Okada. Applicants assert that it would not have been obvious to combine Friedman with Okada and that combination of Friedman and Okada would not achieve the claimed invention.

Okada relates to a water sensing system for a disposable diaper. For example, Figure 4 of Okada discloses a diaper with a water impermeable sheet 12 and a pair of spaced metal layers 13, 14. An informing system is conductively connected to layers 13, 14 using wire leads 18, 19. The informing system has an alarm 25 that signals if the diaper is wet enough to produce a change in the electrical conductivity between metal layers 13, 14.

FIG. 4



Metal layers 13, 14 of Okada form a single detection device within the diaper. In particular, neither metal layer has a detection capability in the absence of the other layer. Accordingly, the metal layers do not and cannot "indicate a fluid distribution" of a urine collection article, as recited by claim 1. Instead, since the metal layers form a single detection device, the metal layers are used to detect whether or not fluid is

present in a water content sensing section 11 of the diaper, without indicating the distribution of the fluid.

It would not have been obvious to combine Friedman with Okada because they disclose reading signals from detection devices by different approaches. In particular, Friedman relates to reading signals from one or more detection devices remotely using a wireless approach, whereas Okada discloses reading conductivity by physical contact with a single detection device. Placement of the detection device of Okada into the diaper of Friedman thus would destroy a primary goal of Friedman, to create a diaper that is monitored remotely.

Even if it would have been obvious, at the time of the invention, to combine Friedman and Okada, and applicant contends that it would not have been, this combination would not have achieved the claimed invention. Friedman discloses separate detection devices that are not electrically coupled to one another and Okada discloses a single detection device. Accordingly, neither reference discloses detectors that are electrically coupled to one another, and particularly not such that the detectors are collectively configured to indicate a fluid distribution of the urine collection article.

None of the cited references recognizes the potential advantages provided by detectors that are electrically coupled. For example, electrically coupled detectors may produce more predictable interactions between detectors and thus less variability of measured signals on detector spacing and orientation. In addition, electrically coupled detectors may provide more information with fewer measurements than electrically uncoupled detectors. Furthermore, electrically coupled detectors may allow wireless

measurements with simpler, less expensive circuits, for example, a single LC circuit rather than a distinct LC circuit for each RF tag as disclosed by Friedman.

In summary, none of the cited references teaches or suggests every element of claim 1. Claim 1 thus should be allowed. Claims 2-31 and 33-35, which depend from claim 1, also should be allowed for at least the same reasons as claim 1.

**B. Claim 36**

Claim 36 is an independent claim directed to a urine detection network:

36. (Currently Amended) A urine detection network, comprising:  
a first detection means for servicing a first region of a urine collection means; and  
at least a second detection means for servicing a second region of the urine collection means;  
wherein the first detection means and the second detection means are electrically coupled and collectively indicate a fluid distribution of the urine collection means.

None of the cited references teaches or suggests every element of amended claim 36. For example, as described above in relation to claim 1, none of the references teaches or suggests first and second detection means that are electrically coupled. Accordingly, claim 36 should be allowed.

**C. Claims 48-50**

Claim 48 is an independent claim directed to a diaper:

48. (Currently Amended) A diaper, comprising:  
an absorbent core for containing excreted urine; and  
a urine detection network including a plurality of electrically coupled detectors positioned adjacent the absorbent core, wherein a characteristic of a detector predictably changes when the detector is exposed to a predetermined threshold of the excreted urine.

None of the cited references teaches or suggests every element of amended claim 48. For example, as described above in relation to claim 1, none of the references teaches or suggests a network "including a plurality of electrically coupled detectors." Accordingly, claim 48 should be allowed. Claims 49 and 50, which depend from claim 48, also should be allowed for at least the same reasons as claim 48.

**D. Claim 51**

Claim 51 is an independent claim directed to a urine detection system:

51. (Currently Amended) A urine detection system, comprising:  
a urine detection network servicing a urine collection article, the urine detection network including:  
a first detector configured to service a first region of the urine collection article, and  
at least a second detector electrically operatively coupled to the first detector and configured to service a second region of the urine collection article,  
wherein the urine detection network has a net characteristic derived from at least a first characteristic of the first detector and a second characteristic of the second detector, and wherein the net characteristic of the urine detection network indicates fluid distribution of the urine collection article; and  
a monitoring subsystem configured to determine the net characteristic of the urine detection network.

None of the cited references teaches or suggest every element of amended claim 51. For example, as described above in relation to claim 1, none of the references teaches or suggests "a second detector electrically coupled to the first detector." Accordingly, claim 51 should be allowed.

### **III. New Claims**

The present communication adds new claims 52-55. Each of the new claims is fully supported by the application and is patentable over the cited references.

Claim 52 depends from claims 1 and recites:

52. (New) The urine detection network of claim 1, wherein the fluid distribution can be derived from a single measurement of a characteristic of the network.

Claim 52 should be allowed for depending from allowable independent claim 1 and also because none of the cited references teaches or suggests a urine detection network from which "the fluid distribution can be derived from a single measurement."

Claim 53 depends from claim 49 and recites:

53. (New) The diaper of claim 49, wherein the interface module is electrically coupled to the plurality of detectors, and wherein the interface module is integral to the diaper.

Claim 53 should be allowed for depending (indirectly) from allowable independent claim 48 and also because none of the cited references teaches or suggests an interface module electrically coupled to a plurality of detectors and integral to a diaper.

Claim 54 depends from claim 53 and further recites that the interface module interacts wirelessly with the monitoring subsystem. Claim 54 should be allowed for depending (indirectly) from allowable independent claim 48 and also because none of the cited references teaches or suggests an interface module electrically coupled to a plurality of detectors, integral to a diaper, and interacting wirelessly with a monitoring subsystem.



Claim 55 is a new independent claim directed to a urine detection network:

55. (New) A urine detection network, comprising:

a first detector configured to service a first region of a urine collection article;

a second detector configured to service a second region of the urine collection article;

a bus electrically coupling the first detector and the second detector to one another; and

an interface module electrically coupled to the bus and integrated into the urine collection article, wherein the interface module is configured to convey a net characteristic derived from a characteristic of each detector and signaling a fluid distribution relative to the first and second regions.

Claim 55 is patentable over the cited references because none of the references teaches or suggests a bus electrically coupling first and second detectors and particularly not an interface module integrated into the urine collection article and electrically coupled to the bus.

////

////

////

////

////

////

////

////

////

**IV. Conclusion**

Applicant believes that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, applicant respectfully requests that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

Respectfully submitted,

KOLISCH HARTWELL, P.C.



Walter W. Kamstein

Registration No. 35,565

520 S.W. Yamhill Street, Suite 200

Portland, Oregon 97204

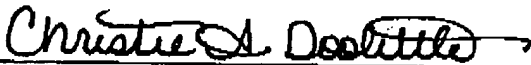
Telephone: (503) 224-6655

Facsimile: (503) 295-6679

Attorney for Applicant

**CERTIFICATE OF FACSIMILE TRANSMISSION**

I hereby certify that this correspondence is being facsimile transmitted to Examiner M. Bogart, Group Art Unit 3761, Assistant Commissioner for Patents, at facsimile number (571) 273-8300 on December 27, 2005.



Christie A. Doolittle